

## Drawings

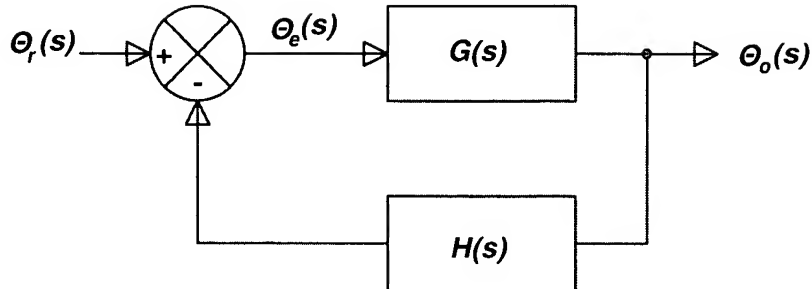


Figure 1, Basic servo loop diagram.

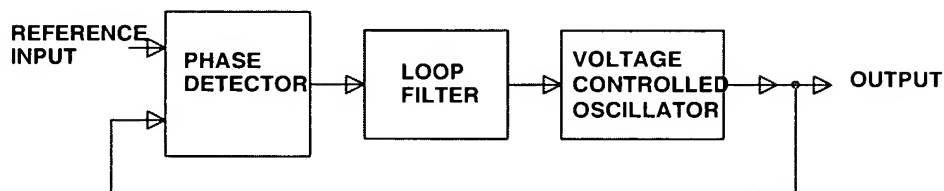


Figure 2, Basic phase locked loop.

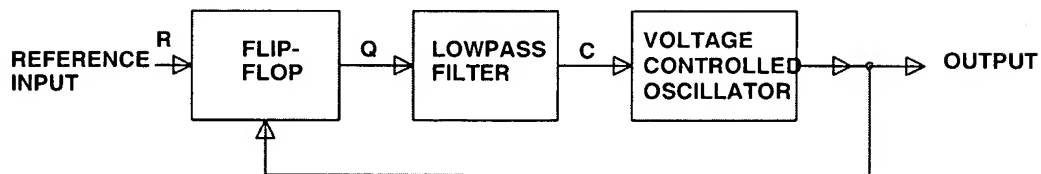


Figure 3, Type 1 PLL.



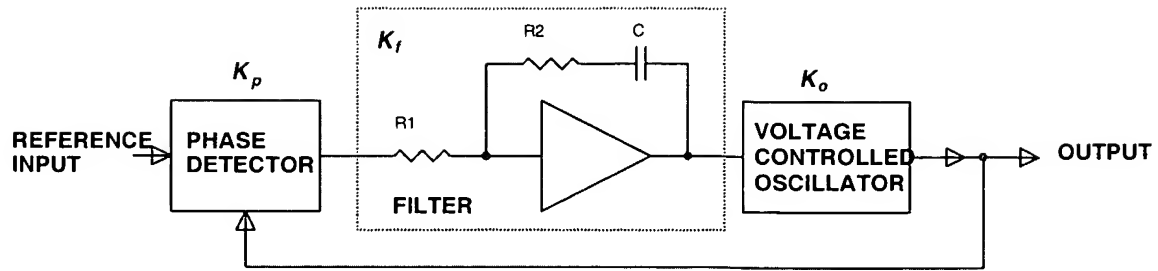


Figure 4, Type 2 PLL.

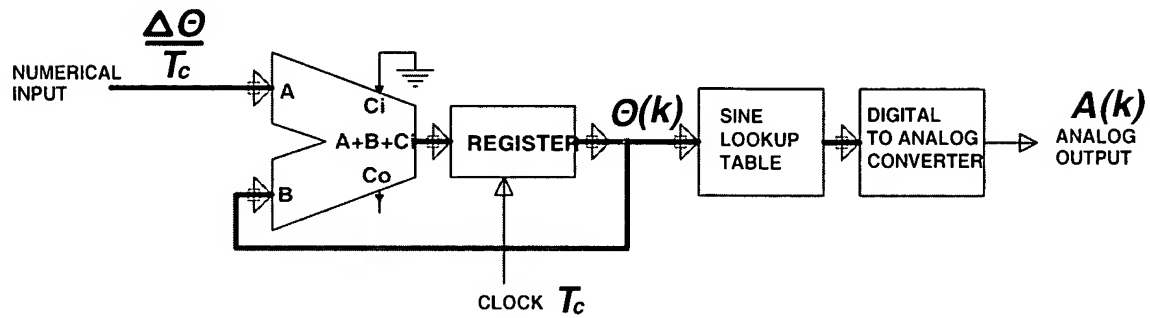


Figure 5, Embodiment of a numerically controlled oscillator.

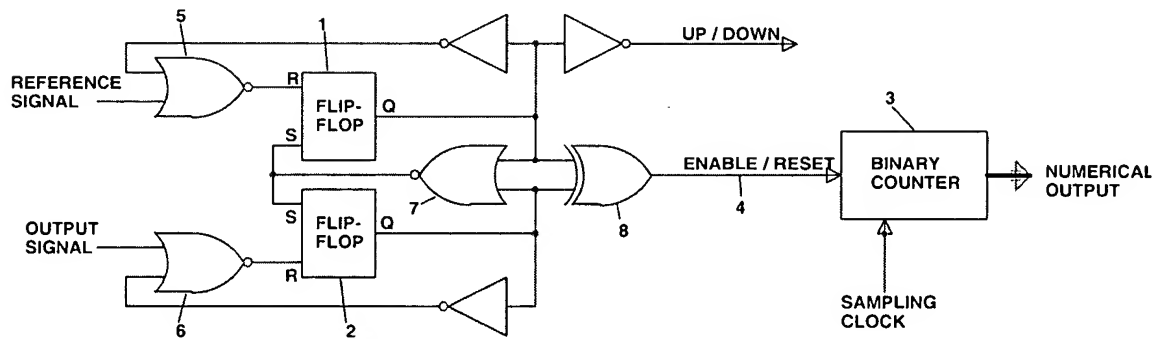


Figure 6, An embodiment of a numerical output phase detector.



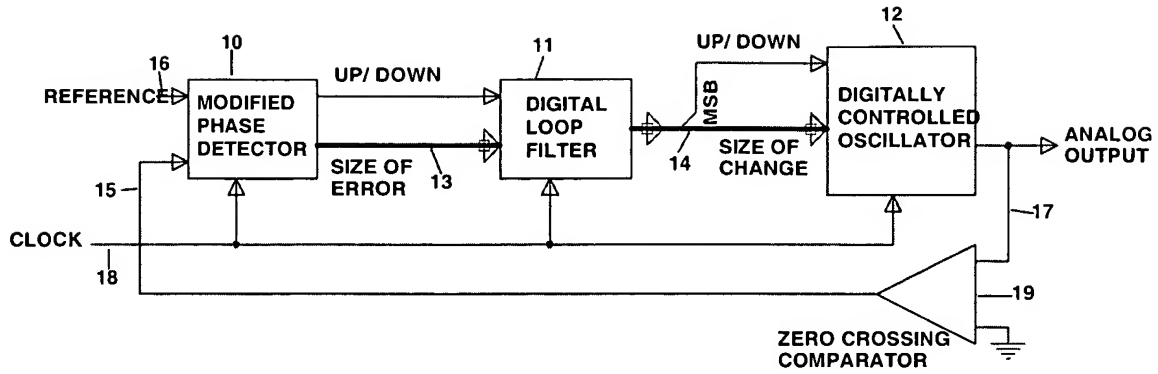


Figure 7, Embodiment of a digital phase locked loop.

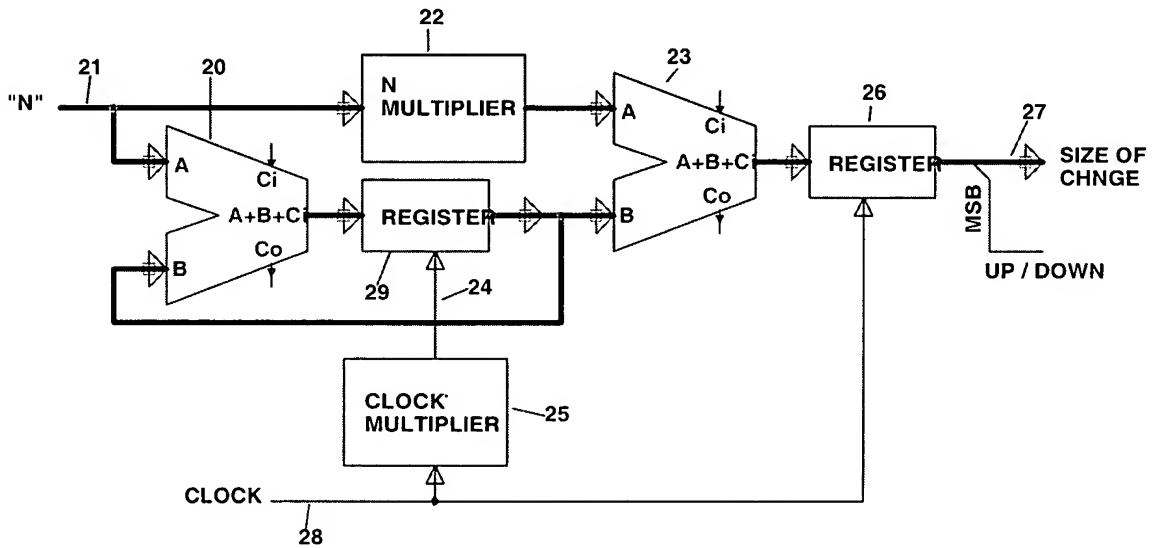


Figure 8, Block diagram of a digital filter for the digital PLL.

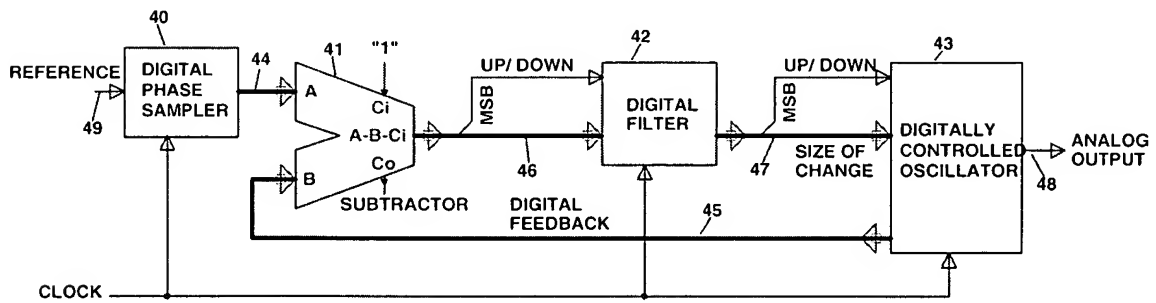


Figure 9, Alternative embodiment of a digital PLL.



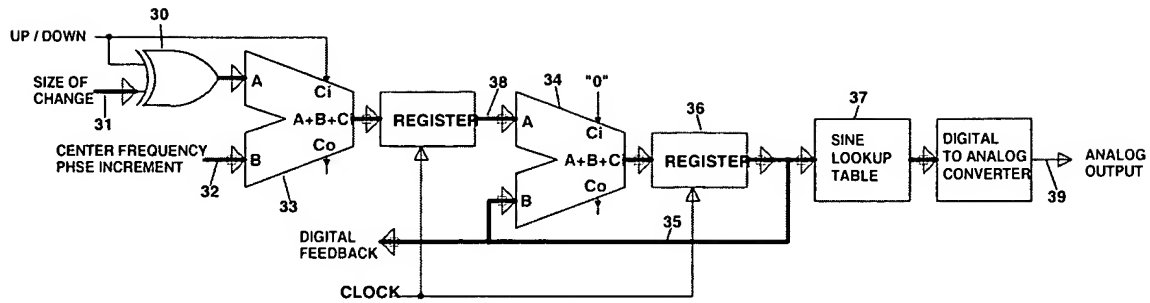


Figure 10, Embodiment of a modified NCO.

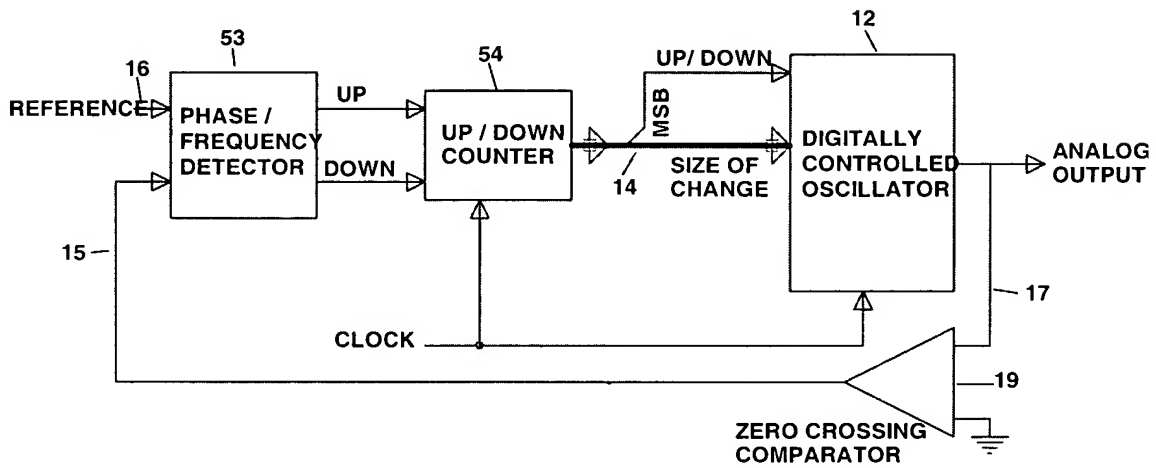


Figure 11, Block diagram of a Type 1 digital PLL.

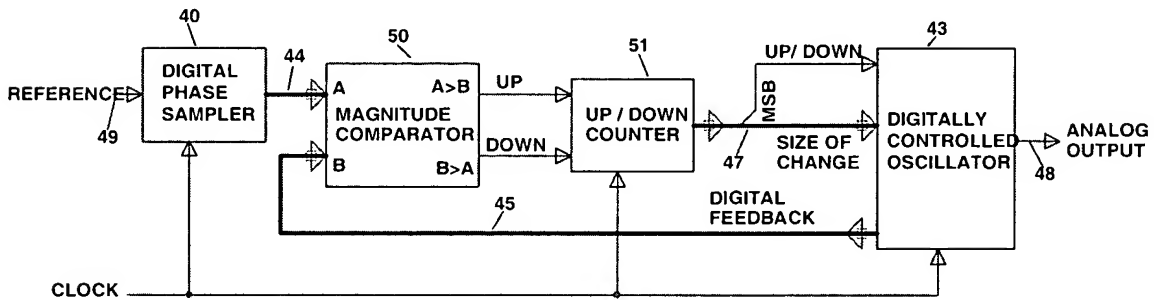


Figure 12, Block diagram of an alternative type 1 digital PLL.



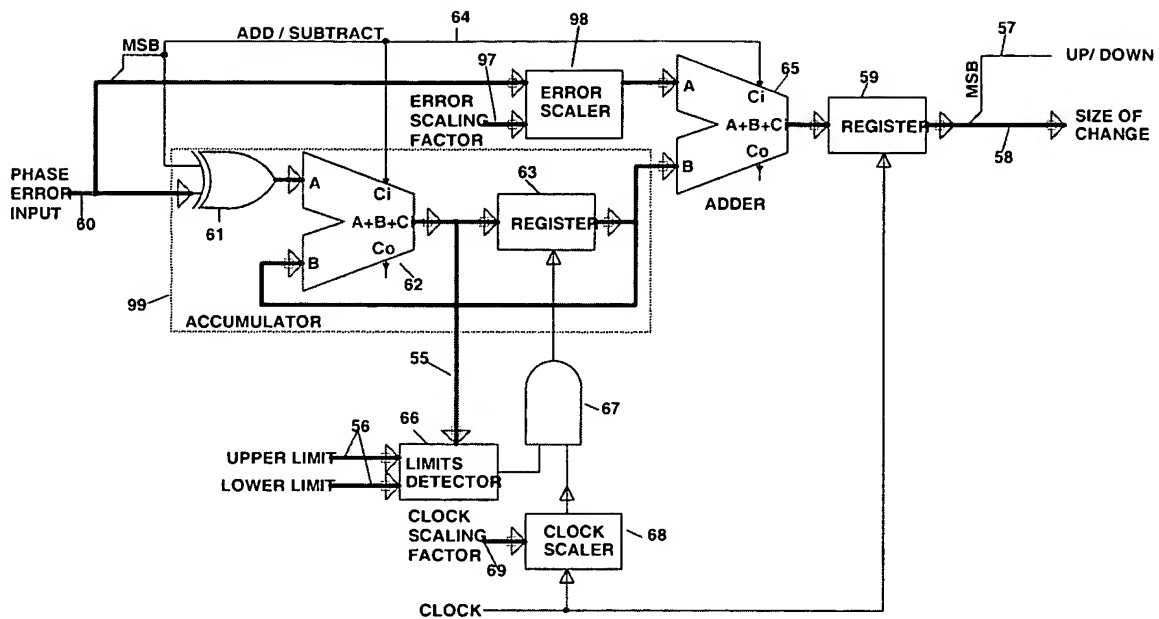


Figure 13, Details of an embodiment of a digital loop filter.

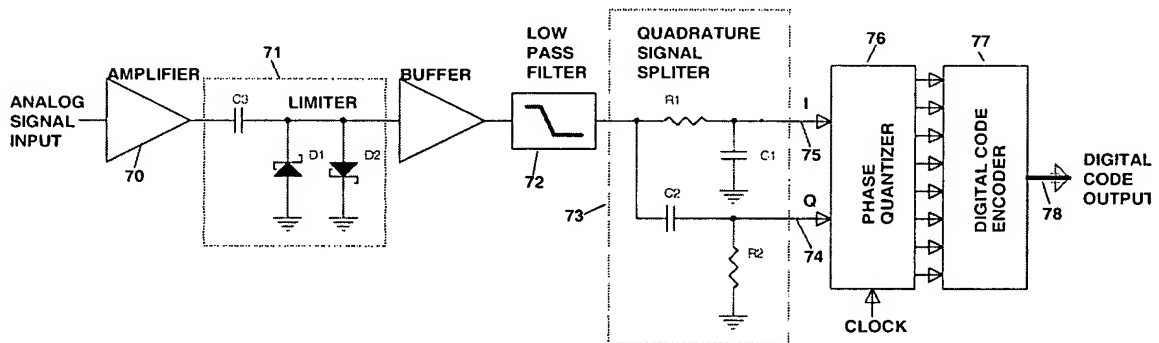
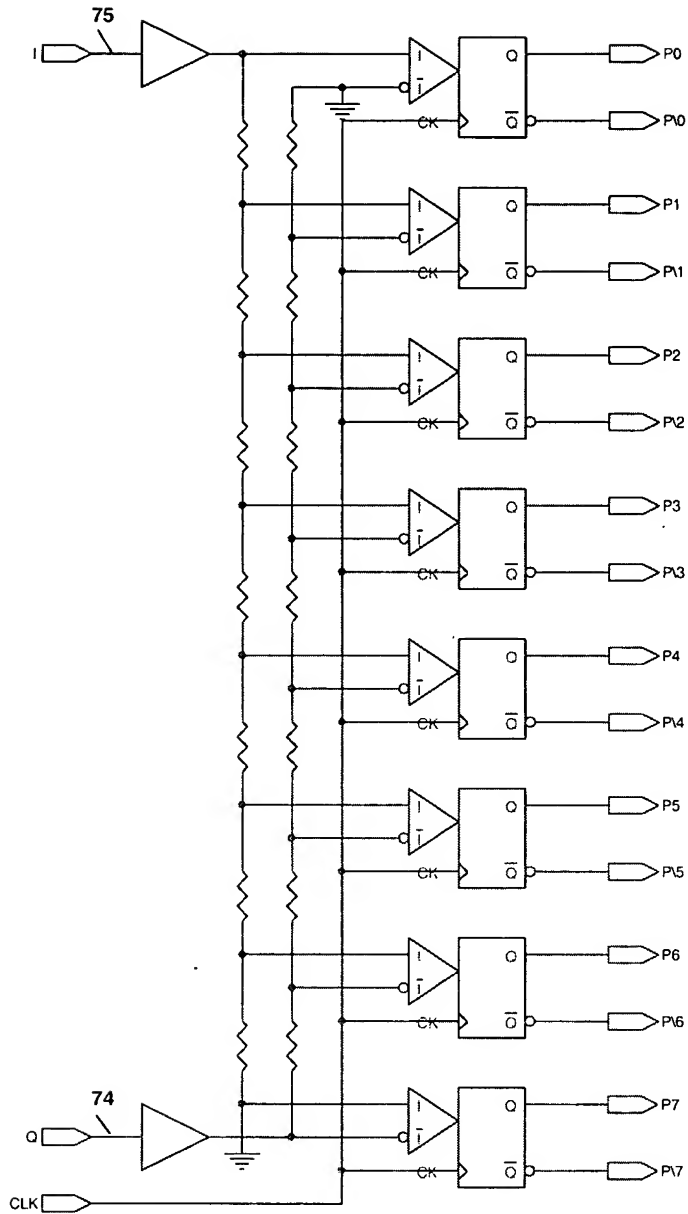


Figure 14, Embodiment of a phase digitizer.





**Figure 15, Embodiment of a phase digitizer.**